## ABSTRACT

The invention relates to a method for calculating an absolute time difference in a radio system, and to a radio system. In the radio system, location measurement units are maintained, the location measurement units receiving signals from base transceiver stations; a reference time for the reference base transceiver station and the detected time differences of the base transceiver stations are specified; the reference time of the reference base transceiver station and the detected time differences of the other base transceiver station are reported; a computational absolute time is calculated; a corrected absolute time for the reference base transceiver station is calculated by using the computational absolute time, the reported reference base transceiver station reference time and a correction coefficient. Finally, the corrected absolute time and the detected time differences are used for calculating the absolute time differences, and the computational absolute time differences are stored.